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ABSTRACT

This paper, in an attempt to develop a meaning for the term "competency" as it relates to education, begins with a brief review of the literature of competency. The authors then offer their definition: a competency is a rational performance which satisfactorily meets the objectives for a desired condition and can be categorized as (a) basic, or essential to the preservation of life; (b) common, possessed "in common" by a social group; (c) technical, generally associated with a job or hobby; or (d) professional, which involves responsibility for decision making. A teaching competency can be divided into several components: (a) the subject component, which refers to instructional objectives or the subject to be taught; (b) the professional component, which relates to the principles, strategies, and techniques used to meet the instructional objective; (c) the process component, which contains thought-processing elements that enable the accomplishment of a teaching competency; (d) the adjustment component, which refers to the individual's adaptation of his personal characteristics to the performance of the competency; (e) the attitudes component, which refers to the values and feelings necessary to the performance of a competency; and (f) the professional component, which refers to the observable behavioral element of the performance associated with the teaching competency. (HMD)

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A MEANING FOR COMPETENCY

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If there is any significance to the name Competency Based Education(CBE) it must lie in the word competency. It is this word that appears to identify the unique or at least different feature of this type of educational program. A review of current educational literature however reveals that little serious attention has been given to this particular concept. For the most part the reference made to competency are brief partial definitions or explanatory notes limited to one or two sentences in an entire paper.

In reviewing the literature, two searches were made of the materials listed in the Educational Research Information Center(ERIC). The first used the descriptors: teaching skill, teacher competencies, teaching competencies, and competency based teacher education. Articles which seemed relevant to the quest of the authors were selected on the basis of the ERIC key words and were reviewed. This first ERIC search revealed a few references which attempted to define competency but did not provide any more detailed treatment. Thus, a second search using the terms competence, competencies, and competency was initiated. It is interesting to note that the Thesaurus of ERIC Descriptors (1972) does not list any of these words as descriptors.

It was, therefore, necessary to make a title search. Articles were selected from the second search which seemed pertinent from the key word descriptions and these too were reviewed. A further search was made in the Education Index for articles published since 1967 relevant to the authors' purpose. In addition, the personal CBE libraries of the authors were searched. None of these searches provided what the authors regarded as an adequate treatment of the concept competency. Because current professional literature has seemingly failed to define competency, and because the concept is fundamental to CBE, the authors have prepared this paper which briefly reviews some of the pertinent literature and presents what they find to be a sound, useable conceptual definition for competency.

A Review of Selected References

In a publication of the American Association of Colleges for Teacher Education (AACTE) on the subject of Performance Based Teacher Education (PBTE) (AACTE considers PBTE synonomous with CBE in teacher education.) Elam, (1971), refers to competencies as knowledge, skills, and behaviors to be demonstrated

by learners which are, "derived from explicit conceptions of teacher roles, so stated as to make possible assessment of a student's behavior in relation to specific competencies and made public in advance " (p.6).

Cooper and Weber (1973) define competencies as, "attitudes, understandings, skills and behavior that facilitate intellectual, social, emotional and physical growth in children" (p.15). Napier's (n.d.) definition of competencies as, "those attitudes, understandings, skills and behaviors which are thought to facilitate intellectural, social, emotional, and physical growth in children" (p. 8) is similar to the definition presented by Cooper and Weber.

Dodl (1972) in the introduction to Catalog of Teacher Competencies says, "The term competency is applied in these materials to statements descriptive of functional abilities which teachers must exercise in the conduct of their job related activities. The knowledge considered foundational to the field of education is not included in this project. The focus instead is on specification of competency in terms of what teachers can do (p. 2)."

Cook and others (1972) with reference to this term point out that the distinction between performance and competency is elusive. They claim the literature and even groups actually working on competency-related projects are unable to provide a definition. They offer the following definition of a competency which they regard as functional: "A competency is knowledge, skills, and judgment which the student will demonstrate on a predetermined proficiency level before initial and/or continuing certification (p. 2)". Johnson and Shearron (1971) observed the confusion regarding the term competency. They wrote, "This term is variously defined. In some instances it is used with reference to what has been defined as a teaching objective and in other instances it is used with reference to teaching behaviors (p. 8)."

Houston and Howsam (1972) write that competence is "adequacy for a task;" or "possession of required knowledge, skills, and abilities (p. 3)."

Other writers appear to use the term "performance" interchangeable with "competence". Elfinbein (1972) defines performance as "behavior to be exhibited at the completion or output by the product; a meaningful

unit of performance relevant to the performance conditions and critical for instruction (p. 91)." McDonald (1972) defines teaching performance as "a complex of knowledge and teaching skill, extending over time, involving many specific items of knowledge, and usually involving several specific skills (p. 60)."

A Definition

The authors define a competency as a rational performance which satisfactorily meets the objectives for a desired condition. The key words in this definition which must be given consideration if adequate communication is to occur are: rational, performance, satisfactorily, objectives and desired condition. Rational here means that the performer has direction and purpose. He knows precisely why he is doing what he is doing. He may have even developed and considered many alternative strategies before he chose to implement the one which he uses.

Performance is more than observable behavior. It includes much that cannot be observed such as the manipulation of ideas and the making of judgments and decisions.

In the phrase, "satisfactorily meets the objectives" the word satisfactorily is used to indicate that a competency need only be adequate or sufficient. By using this word the definition avoids the implication that a competency is a highly proficient act. At the same time, it suggests that factors associated with efficiency cannot be overlooked. In this same phrase the term objectives is synonomous with specifications or any other such term which indicates that the hoped for outcomes have been defined in fairly detailed terms.

A desired condition is a state of existence in which some specific need or want is satisfied. This need or want might be the changed behavior of some individual or group, a tangible product or idea, an answer to a question, a means of resolving a problem, or a plan or strategy to accomplish some mission.

Some Kinds of Competencies

Whenever a person systematically and rationally goes about to get what he needs or wants and is successful in doing so he has performed a competency. The number of competencies performed by human beings

would therefore be a seemingly endless list. In order to view this whole field of competence with some system and order, it is helpful to assume that all competencies may be generally sorted into various broad categories. Here the terms basic, common, technical and professional will be used. However, one cannot afford to be exacting when competencies are sorted into such categories. This will become evident when it is noted that what to one person or group may be considered to be a common competency may to another person or group be a technical or even perhaps a professional competency.

Basic competencies are defined here as those essential to the preservation of life. They have to do with man meeting his needs for existence in his environment. For the most part they are associated with the basic needs. Illustrative of basic competencies are: He maintains an adequate diet. He secures sufficient rest and sleep. He communicates with others in his social group.

Common competencies are those which are "possessed in common" by social group. That is, each person expects nearly all others in his immediate social ingroup

to have them. They are over and above the basic competencies, but as social groups develop many of these become more and more essential as distinguished from merely desirable. Competencies common to the everyday activities in particular social groups of the United States include: He drives an automobile. He makes long distance telephone calls. He keeps records of family expenditures. He plays tennis. He rides horseback.

Technical competencies are usually performed in connection with a job or hobby. The focus of attention is upon the word technical which in this case relates to technique or technology. It is a skill or way of doing something. Normally we think of someone who is performing a technical competency as a practionner. He knows that the skill or technique which he is using will lead to the desired end and it may be of little consequence whether or not he understands the philosophical, sociological or scientific rationale for his performance. Often in military, medical and industrial activities the technical employee is expected to know only how to perform a given competency. If he makes any judgments in carrying it out they relate

to the safety of the environment, the efficiency of performance and perhaps the selection of the specific tools most likely to assist the performer in carrying out instrucions.

Teachers are required to perform many technical competencies in carrying out their professional responsibilities. Some of these are: He operates a motion picture projector (or any other piece of normally used equipment such as an overhead projector, mimeograph machine or opthalmograph). He scores standardized tests (as instructed). He requistions instructional materials and equipment (with procedures which are in keeping with administrative policies). He prepares equipment inventories (or any other report such as fiscal reports, attendance records, health records, pupil achievement records etc.) as directed.

Professional competencies differ from the others in that they carry with them the responsibility for decision making. Normally, they demand analysis and synthesis of ideas or the kinds of activities which we normally associate with problem solving. These competencies are much more likely to call upon our accumulation of knowledge and experience, our thought

processes and our creativity than do the others. In teaching, professional competencies include such performances as: He identifies the learner's needs. He prescribes suitable learning activities. He guides the learner toward social adjustment with his peer group. He assists the learner in determining the nature of his own values. He creates and maintains an environment condusive to learning.

The Uniqueness of a Competency

In preparing the definition the authors have deliberately avoided any suggestion that all competencies are uniform or stereotyped performances. It is their thesis that most if not all competencies may be carried out in numerous ways. With some competencies especially professional competencies the performer's manner may differ markedly from one person to another.

Although the case is made that performers should differ one from another in carrying out certain competencies. It is perhaps even more to the point to say that seldom if ever can certain competencies be performed twice in the same manner. In most life situations there are too many variables which change too rapidly to allow this duplication. An activity

can seldom if ever be implemented twice with the same persons because the persons involved in the first implementation are changed as a result of it. If one should attempt to duplicate a first performance it would be unlikely that one could obtain sufficiently similar subjects for the activity to be duplicated as a perfect reflection of the original activity. Indeed if nothing else were changed, the performer himself would have been changed as a result of carrying out the first performance. Herein lies a cue to the creative and artistic nature of performing a competency. For the authors this cue along with what is said later about the individual's uniqueness in implementing a professional teaching competency helps dispel some of the concern expressed by the erroneous assumption that by specifying competencies for objectives we produce robots for teachers.

The Components of Competence

In the review of literature it was found that when authors discussed or attempted to analyze competencies they used such terms as performance, knowledge, skills, processes and attitudes. However, one may not

conclude from these writings that such terms in and of themselves represent different kinds of competencies. That is, a competency cannot be simply any peice of stored or storageable knowledge about some process, idea or thing. Nor can it be simply any attitude or feeling for which no particular object has been identifies. The term competency implies action in relation to an objective. Thus, without clear indication of an objective and the implication of impending action there can be no competency.

The component parts for either a technical or a professional teaching competency are the same, but the contents for these components differ in number and kind for each competency and for each individual. The content of the components elements are called enablers. An enabler is an assisting element. It could be an item of knowledge, a skill, a process or a feeling or attitude.

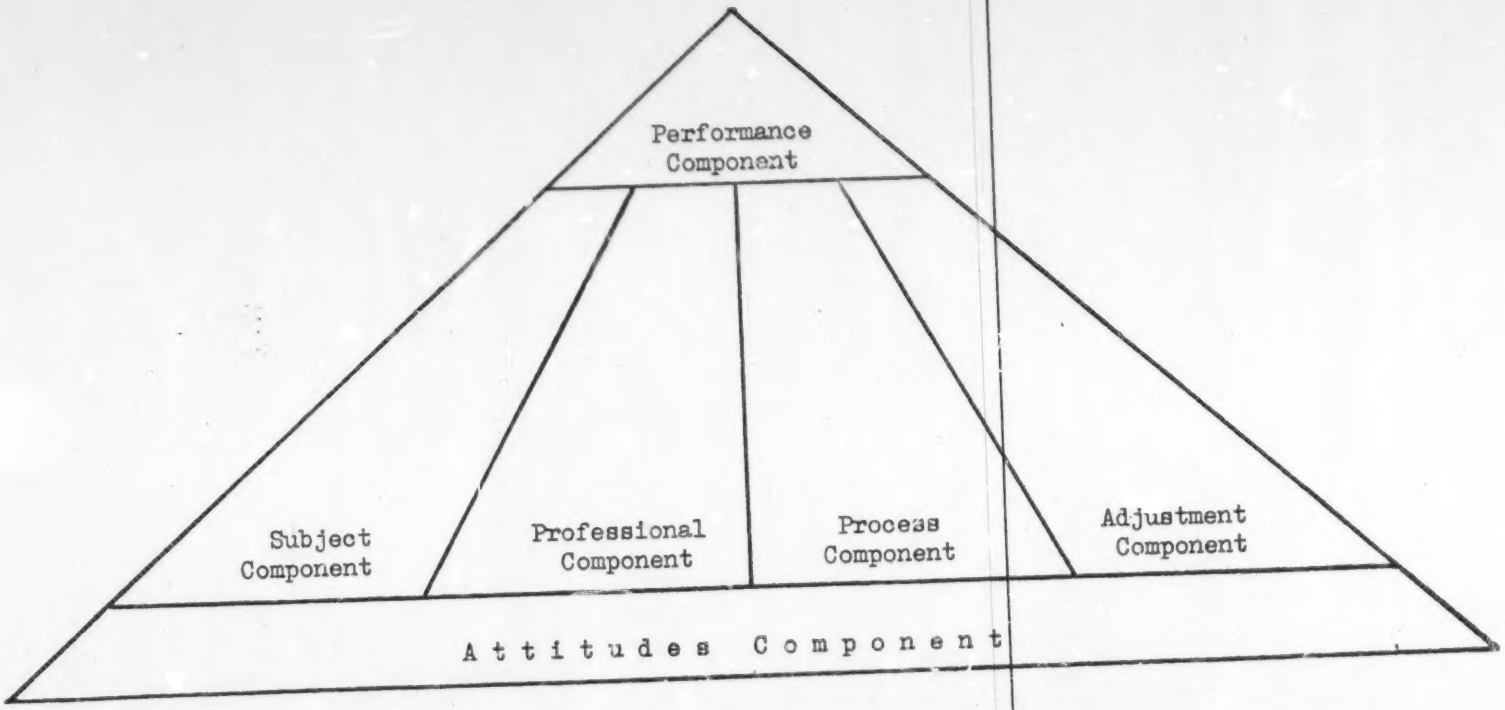
The components or component parts for a teaching competency which have been identified thus far by the authors are: the performance enablers component, the instructional objective enablers component,

the professional enablers component, thought processing enablers component, the individual adjustment enablers component, and the attitudinal enablers component. Hopefully to simplify communication these components will be called the performance component, the (teaching) subject component, the (teaching) professional component, the (thought) process component, the (personal) adjustment component, and the attitudes component.

It may be observed that these various components of a competency contain elements that are constantly in interaction. None of the components or elements is easily identified as a part of a particular competency when it is separated from the competency itself. However, once in its "proper" place the logic of its relationship to the competency can usually be justified by the person who makes the association. Figure 1 depicts these components graphically in their approximate relationship each to the others.

The Performance Component

Performance is shown at the peak of the figure. Performance here is on-the-job action. It consists



Performance component contains observable behavioral elements of the performance associated with the teaching competency.

Subject component contains elements of the competency directly associated with the instructional objectives or subject to be taught which enable performance of the competency.

Professional component contains elements of the competency associated with professional education which enable performance of the competency such as principles, strategies, and techniques.

Process component contains thought processing elements which enable the implementation of the teaching competency.

Adjustment component contains elements essential to the individual's adaptation of his personal characteristics to the performance of the competency.

Attitudes component contains enabling elements of attitudes, values and feelings essential to the performance of the teaching competency.

Fig. 1 The Components of a Competency

of many identifiable behaviors being performed in concert, and calls forth elements from the performers total background of knowledge, skills, processes and values to make decisions so as to perform individually in such a fashion as to satisfy the target instructional objectives.

To evaluate this component one must assess the observed performance against given performance criteria and note the effect on the environment in relation to the instructional objectives.

Checklists utilizing performance criteria for mastery at some specified level of proficiency are seen to be the most feasible means of assessing performance today. The effects of the professional performance on the learner may also be used to provide evidence of its effectiveness. This is determined by assessing the before and after behavior of learners and by examining the products of their learning efforts.

The Subject Component

The contents of the subject component are enablers associated with the instructional objectives. For example, if subject matter teaching is the concern

then these enablers have to do with the subject matter being taught. This means the facts, ideas, principles, concepts, values, processes and/or skills which the teacher helps the learner acquire. If the competency has to do with the teaching of the natural sciences then the enablers are the elements of subject matter, values and skills about the natural sciences which the teacher must possess in order to perform the teaching competency. Similarly if the subject area is mathematics then the enabling elements are drawn from the field of mathematics.

Subject component elements are for the most part evaluated by conventional means of assessment. That is, once essential elements have been identified those tests commonly used in college classes to determine whether or not a student has sufficient knowledge, can perform a skill or manipulates selected elements of a process, can be used to determine whether or not the learner has sufficient background in the subject to perform the competency.

The Professional Component

The contents of the professional component include

definitions, facts, principles, skills, and processes associated with professional education. Its basic source is a massive collection of information which theorists and practioners in Education refer to as professional knowledge. It includes the subject matter of the profession classified under such titles as educational psychology, developmental psychology, educational sociology, philosophy of education, curriculum, tests and measurement, methods and techniques, management of instruction, educational media and many more.

Insofar as any particular competency is concerned however the professional component contains only those enabling elements which are essential to the performance of the teaching competency. This includes such information as how the competency is carried out, why it is important and the conditions under which it can be successfully implemented.

Evaluation of this component consists of determining what is desired as evidence of the extent to which the teacher possesses the essential facts, definitions, principles or skills. Conventional paper and pencil tests which represent a reliable sample of

of the essential information along with some suitable checklists for skills are usually thought to be adequate.

The Process Component

Here, the term process is used as a referent for a class of human techniques by which we produce ideas, create designs and strategies, make decisions and evaluate progress. These processes are the tools by which we aspire, idealize and create exemplary models. We use them to compare ideas, to redesign strategies, and to produce means of resolving problems.

In carrying out any competency we must use processes. However, some competencies require different kinds of processes and to a greater or lesser extent than do others. For example, the processes required to th ead a motion picutre machine are different and for most people less complex than the processes required to design a learning activity for a particular learner acquire a specific objective.

The content of this component operates interactively with that of those previously mentioned. One should not usually teach about a subject unless he has knowledge and skills in that subject. Also, to be effective one should know what is said about how teaching should be carried out and know the rationale which supports the theory. On the other hand no

amount of knowledge, skill or feeling about the subject matter being taught or about professional education can be a value unless the teacher processes this information in such a manner as to help the learner reach the desired objectives.

Processes may be evaluated by the products of either real or simulated activities. For example, if we are interested in knowing how well a teacher diagnoses a learner's needs we can provide that teacher with either a case study of a pupil or a "real live" pupil and ask the teacher to determine his learning needs. There are two products of this activity which may be evaluated. One is the list of pupil needs which were produced and the other is what the teacher reveals to be the process by which the list evolved. Both products could be evaluated: in the former case by inquiring of specialists (or criteria) the extent to which the list of needs are acceptable and in the second case by asking specialists (or criteria) the extent to which the processes which were appropriate. In the first case only the suitability of the immediate list (the sample one) is revealed, but in the second case because process is being evaluated the

evidence reveals the extent to which this teacher is likely to be successful in determining the needs of other pupils.

The Adjustment Component

Personal characteristics or qualities in and of themselves are not teaching competencies. However, they are important concerns in examining a teaching competency since they determine the manner in which the competency will be carried out by any individual. For example, an elementary teacher who is helping children acquire number concepts will use music if that teacher is skillful in music. Another who is skillful in graphics is more likely to use the media of art. Still another might stress dance or some other form of body movement because that teacher possesses aptitude in this area. For another illustration let's look at enthusiasm. All teachers should probably show enthusiasm, but certainly not all of them should do so in the same manner. What is appropriate for one teacher may be totally inappropriate for another.

Consideration of the component personal adjustment gives the opportunity for competency based programs to provide the freedom for teachers to "be themselves". It personalizes and humanizes. It encourages them to utilize their strengths or aptitudes and to minimize or compensate for their weaknesses or deficiencies. Furthermore it provides for creative performance. It has already been pointed out that no competency can ever be demonstrated twice in exactly the same manner. The authors would further assert that no attempt should ever be made to create identical duplication in the practice of any professional teaching competency.

Evaluation of the extent to which any individual teacher is making the most of his or her personal characteristics in the implementation of a competency is difficult to evaluate. Certainly no standardized instrument exists today. However, there are processes by which this may be attempted. The student might begin by systematically examining himself to the point that he prepares an inventory of his personal characteristics -- aptitudes and deficiencies. With this list and assistance from peers, superiors and even perhaps his students, he might systematically search

for ways in which he could capitalize on his aptitudes, compensate for his deficiencies, and thus adjust proposed behavioral models to his own particular personal characteristics.

The Attitude Component

When we have positive attitudes toward some objective we usually do those things which we think will make it happen. When we have negative attitudes toward some objective we tend to avoid it or to prevent it from happening. If we feel neither positive nor negative we tend to do nothing. With no attitude or feeling there is no desire to act; thus, no performance. It is only with positive feelings then that a competency is implemented. This rationale leads the authors to regard the attitude component which contains values, attitudes and feelings as the foundation upon which all other components rest.

Some people value certain things more than others. Also, values differ within and among groups. Thus, there may be many values associated with any particular teaching competency. Some are suggested by the following questions: How do we feel toward the learning objec-

tives which the competency will attain? How do we feel toward the learning environment? How do we feel about the amount of work that the competency will require us to perform? How do we feel about the long range benefits? How do we feel about the competency? How do we feel toward students? . . . toward ourselves?

To evaluate the elements of the affective component is one of the most difficult tasks for the evaluator. There are many reasons for this. Our evidence today in most instances must be at least partly subjective. Yet, sometimes a person just simply does not know how he feels about something. Indeed he may sincerely think he feels one way when indeed were the truth known he feels another. It is not uncommon for a person to find it expedient to hide his feelings from others particularly if they are not in harmony with those he thinks he should have for social acceptance. Others for seemingly unrelated reasons may react to a situation in a manner inconsistent with value expectations.

In spite of the difficulties involved it is important that we gather evidence for evaluation. One approach is to ask the performer to tell as honestly

and sincerely as he can how he feels toward the objectives, the pupils, the learning situation, the competency and other important elements in the learning field. Next, we might ask others how they observe the performer to feel when he is in action. These "others" might include colleagues, supervisors and the learners themselves. If there is a high measure of agreement among all responding then it may be tentatively assumed that the performer has the attitude suggested. If there is a wide variation among responses ranging from positive to negative it is likely that there's need for further analysis and investigation.

Illustrative Statements of Teaching Competencies

This discussion would be incomplete without some illustrations of statements which the authors regard as appropriate to represent teaching competencies. The following list of twelve professional teaching competencies (as distinguished from technical competencies and personal or other humanistic qualities) are presented. These particular items were specified by a group of educators who regarded them as some of

the teaching competencies essential for beginning teachers. Those who formulated the list believed that it is the responsibility of the teacher education program (broadly perceived to include both on campus and field centered experiences) to provide opportunities for students to acquire these competencies.

1. Determines the needs of the learner.
2. Plans activities for the learner.
3. Selects learning materials appropriate for instruction.
4. Uses a variety of teaching strategies as required by the teaching situation.
5. Maintains an environment conducive to learning.
6. Employs a variety of evaluative procedures appropriate to the situations.
7. Communicates effectively with others.
8. Works cooperatively with others.
9. Utilizes feedback to improve his professional competence.
10. Utilizes social control procedures appropriate to the situation.

11. Accounts for fulfilling the goals of the instructional program which he is implementing.
12. Evaluates the effectiveness of the instructional program for which he is responsible.

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